

# Device Safety

## Warming up to safe infusions

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AN 82-YEAR-OLD patient undergoing surgery to excise a bone cyst required a transfusion. A fluid warmer was used to warm the blood and replacement fluids. Despite fluid and blood replacement, the patient developed hypotension and tachycardia. An echocardiogram showed air in the right atrium and right ventricle. The patient subsequently died.

### What went wrong?

When a liquid is warmed, gases in the liquid become less soluble and form tiny bubbles. Fluid-warming systems use an air eliminator to vent microbubbles, but the patient may

inadvertently receive air with the fluids. In this case, although the health care provider didn't observe bubbles in the system, air reached the right side of the patient's heart.

### What precautions can you take?

- Be aware of the potential for air emboli when using a blood and fluid warmer.
- Follow the manufacturer's instructions to prevent inadvertent infusion of air into the bloodstream.
- Fully prime all filters, lines, and disposable sets before starting an infusion.
- Observe closely for air in the line

when you prime disposable sets and replace filters.

- Don't transfuse blood or infuse fluids if you see air bubbles in the line. Thoroughly check the line for bubbles before opening a roller clamp.
- If you see bubbles, remove air from the fluid pathway according to your facility's procedure before continuing the infusion. **U**

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Although you need to support the adverse event-reporting policy of your health care facility, you may voluntarily report a medical device that doesn't perform as intended by calling MedWatch at 1-800-FDA-1088 (fax: 1-800-FDA-0178). The opinions and statements contained in this report are those of the author and may not reflect the views of the Department of Health and Human Services. Device Safety is coordinated by Chris Parmentier, RN.